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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,347	03/31/2004	Mahesh U. Wagh	42P18578	8283

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EXAMINER

FRANKLIN, RICHARD B

ART UNIT	PAPER NUMBER
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2181

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/815,347	Applicant(s) WAGH ET AL.	
	Examiner Richard Franklin	Art Unit 2181	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) 1-7 and 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-19 and 25-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 27 are pending. Claims 1 – 7 and 20 – 24 have been withdrawn from consideration due to a restriction requirement.

Election/Restrictions

2. Claims 1 – 7 and 20 – 24 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on 29 December 2006.

Specification

3. The use of the trademark PCI EXPRESS™ has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

4. The use of the trademark PCI-X™ has been noted in this application. It should be capitalized wherever it appears and be accompanied by the generic terminology.

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Although the use of trademarks is permissible in patent applications, the proprietary nature of the marks should be respected and every effort made to prevent their use in any manner which might adversely affect their validity as trademarks.

Claim Objections

5. Claims 8 and 25 are objected to because of the following informalities:
- Claim 8 – In line 7, the claim recites "... being one of equivalent to ***and*** less than ..." (emphasis added). It appears the word "and" should be replaced with "or" because the claim appears to be offering an option of either being equivalent to or being less than.
 - Claim 25 – In line 8, the claim recites "... being one of equivalent to ***and*** less than ..." (emphasis added). It appears the word "and" should be replaced with "or" because the claim appears to be offering an option of either being equivalent to or being less than.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 25 – 27 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The claims recite a machine readable medium having instructions stored therein. The specification defines a machine readable medium to include "any medium capable of storing or **transferring information**" and "a ROM, a floppy disk, a CD-ROM, an optical disk, a hard disk, **a radio frequency (RF) link**, and similar media and mediums" (emphasis added). The claim covers an embodiment that fails to include patent-eligible subject matter, since signals or waves, such as radio frequency (RF) media, or other forms of energy are not deemed to fall within a statutory category of invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 8 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,240,095 (hereinafter Good) in view of US Patent No. 5,787,072 (hereinafter Shimojo).

As per claim 8, Good teaches determining an amount of available memory credits in an IO controller (Good; Figure 1 Item 10, Col 5 Lines 24 – 31); communicating to a chipset (Good; Figure 1 Item 12) coupled to the IO controller the amount of available memory credits (Good; Col 5 Lines 24 – 31); and sending an amount of data from the chipset to the IO controller (Good; Col 5 Lines 35 – 38).

Good does not explicitly teach that the amount of data sent is one of equivalent to or less than the communicated memory credit amount.

However, Shimojo teaches sending credit amounts (Shimojo; Col 6 Line 61 – Col 7 Line 4) from a receiver to a sender and sending data from the sender to the receiver (Shimojo; Col 6 Line 61 – Col 7 Line 4), wherein the data is equal to or less than the communicated credit amounts (Shimojo; Col 6 Line 61 – Col 7 Line 4).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Good to include the data size restriction because doing so allows for protection that the cell does not exceed the amount of free buffer area (Shimojo; Col 6 Line 61 – Col 7 Line 4).

8. Claims 9, 12 – 16, 18 – 19, and 26 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,240,095 (hereinafter Good) in view of US Patent No. 5,787,072 (hereinafter Shimojo) and further in view of US Patent Application Publication No. 2002/0150049 (hereinafter Collier).

As per claims 9 and 26, Good in combination with Shimojo teach the method as described per claims 8 and 25 (see rejection of claims 8 and 25 above). Good in combination with Shimojo also teaches determining a least amount of available memory in one of the buffers to create an amount of available memory in the IO controller (Good; Col 5 Lines 24 – 31).

Good in combination with Shimojo does not teach wherein determining the available amount of memory credits comprises comparing an amount of available memory in each of a plurality of buffers contained within the IO controller.

However, Collier teaches determining the available amount of memory credits comprises comparing an amount of available memory in each of a plurality of buffers (Collier; Paragraph [0024] Lines 9 – 15 “virtual lane buffers”).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Good in combination with Shimojo to include the comparison because doing so allows for indication that free space has increased over a threshold (Collier; Paragraph [0024]).

As per claims 12 and 13, Good also teaches temporarily storing the data sent from the chipset in a buffer in the IO controller (Good; Col 5 Lines 21 – 61).

As per claim 14, Collier teaches storing the data in a plurality of buffers (Collier; Figure 3 Item 322, Paragraph [0030] Lines 4 – 7, Paragraph [0033] lines 1 – 7).

As per claim 15, Good also teaches emptying the buffer of at least some of the data temporarily stored in the IO controller to create a new amount of available memory credits in the IO controller (Good; Col 6 Lines 10 – 14).

As per claim 16, Good also teaches sending the data to an IO bus coupled to the IO controller (Good; Figure 1 Item 18).

As per claim 17, Collier also teaches sending the data to a plurality of IO busses (Infiniband) coupled to the IO controller (Collier; Figure 1, Paragraphs [0018] – [0019]).

As per claim 18, Good also teaches keeping track of the number of available memory credits in the IO controller (Good; Figure 1 Item 74).

As per claim 19, Good also teaches simultaneously keeping track of amounts of memory credits the IO controller empties onto the IO bus (Good; Col 6 Lines 10 – 14), amounts of memory credits sent to the IO controller (Good; Figure 3 Item 60, Col 5 Line 66 – Col 6 Line 4) and amounts of memory credits made available by the distribution of data sent from the chipset to a plurality of buffers contained in the IO controller (Good; Figure 1 Item 74, Col 5 Lines 30 – 32).

As per claim 27, Good also teaches temporarily storing the data sent from the chipset in a buffer in the IO controller (Good; Col 5 Lines 21 – 61); emptying the buffer of at least some of the data temporarily stored in the IO controller to create a new amount of available memory credits in the IO controller (Good; Col 6 Lines 10 – 14); and simultaneously keeping track of amounts of memory credits the IO controller empties onto the IO bus (Good; Col 6 Lines 10 – 14), amounts of memory credits sent to the IO

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controller (Good; Figure 3 Item 60, Col 5 Line 66 – Col 6 Line 4) and amounts of memory credits made available by the distribution of data sent from the chipset to a plurality of buffers contained in the IO controller (Good; Figure 1 Item 74, Col 5 Lines 30 – 32).

9. Claims 10 – 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,240,095 (hereinafter Good) in view of US Patent No. 5,787,072 (hereinafter Shimojo) further in view of US Patent Application Publication No. 2002/0150049 (hereinafter Collier) and further in view of US Patent Application Publication No. 2003/0223369 (hereinafter Anderson).

As per claims 10 – 11, Good in combination with Shimojo and Collier teach the method as per claim 9 (see rejection of claim 9 above).

Good in combination with Shimojo and Collier does not teach converting the amount of available memory to an amount of available credits by dividing the available memory by the amount of memory equal to one credit.

However, Anderson teaches converting from memory to credits by determining the equivalent credit value of a packet (Anderson; Paragraphs [0039] and [0053]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the teachings of Good in combination with Shimojo and Collier to include the conversion because doing so allows for size comparisons (Anderson; Paragraph [0053]).

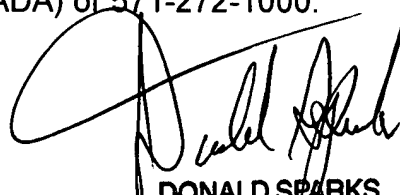
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Franklin whose telephone number is (571) 272-0669. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Sparks can be reached on (571) 272-4201. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Richard Franklin
Patent Examiner
Art Unit 2181



DONALD SPARKS
SUPERVISORY PATENT EXAMINER